Judith Whitney, Clerk
Vermont Public Service Board
112 State St., Drawer 20
Montpelier, VT 05620-2701

Re: VPIRG Final Comments on Proposed Rule 5.700: Rule on Sound Levels from Wind Generation Facilities

Dear Ms. Whitney,

VPIRG appreciates the opportunity to briefly address several issues relating to the proposed Rule 5.700 that were raised during the Technical Workshop on May 4th.

Turbine Scale and Differentiated Limits

The difference in efficiency, from a cost and energy perspective, between small (under 100 kW) and large wind turbines means that small wind alone cannot generate a significant portion of our clean energy needs. While VPIRG supports the opportunity for individuals and businesses to participate in the clean energy transition by installing a small wind turbine, generally speaking, small wind turbines have a lower capacity factor and a higher upfront cost per installed kW, making them far less efficient across the board.

Much of the upfront work to site a wind turbine still exists when at a smaller scale, but the large majority of small wind projects are single-turbine, meaning the size-normalized cost per turbine and cost per kW is significantly higher than for large turbines. Unlike solar, which retains its capacity factor at smaller scales, both the size and siting of small wind turbines makes them less efficient from a power standpoint – in particular in a place like Vermont, where the wind resource varies widely from place to place. While we see no problem with a differentiated standard for smaller turbines, creating a viable sound standard for small turbines while continuing to block large turbines based on sound is neither supported by the evidence, nor will it allow Vermont to meet its renewable energy goals.

Participating Landowners

VPIRG also supports a method for project developers to negotiate easements or waivers with individual homeowners as part of the permitting process. However, the value of such a provision is that it enables developers and residents to work together to make the most of a proposed project while also increasing community ownership and support for that project.

A waiver provision won't, however, change the fundamental equation of whether or not the rule will allow wind going forward. Developers are exceedingly unlikely to make the substantial up-front investment necessary to prepare for a potential project knowing that every homeowner within a 1 to 2+ mile radius will have a veto over it – in particular since they wouldn't know which specific homeowners would have a veto until after they did that up-front work. Waivers are a valuable addition to an effective standard, but won't make a non-functional standard work.

NRO Modes

In regards to Noise Reduced Operation (NRO) modes, while we understand the concerns that Mr. Blomberg raised at the workshop, we find that they are easily addressed without taking NRO modes off

the table for standard turbine operations. As we stated in our November comments, we support requiring project operators to provide regulators full access to turbine operations data that indicate when NRO modes are engaged.[1]

Conservative pre-construction modeling, as proposed in this rule, accounts for the use of NRO modes under specific meteorological and site conditions. Proposed NRO modes are set up to go into effect as standard operating procedure based on these models. While the schedule and conditions can be modified based on compliance testing, the NRO mode is an easily verifiable tool to maintain turbine sounds below a set limit. As discussed at the workshop, NRO is a limited tool in terms of decibel reductions, but it is an important one that should be part of standard turbine operating protocol, as it is around the world.

Prohibiting or restricting the use of NRO modes would, like an overly restrictive decibel limit or unnecessarily conservative modeling standards, have the impact of reducing turbine or project sizes, which would result in more turbines and projects ultimately being needed to get to the same amount of renewable generation.

Compliance Testing

We have demonstrated in our past comments that 35 dB(A) is unsupported from a public health or annoyance standpoint. However, it is worth emphasizing that it is also unworkable from an acoustic standpoint, because it is simply too quiet a limit to successfully conduct compliance testing under. As stated by Mr. Ashtiani at the May 4th workshop, the decibel limit is low enough to make a determination of compliance difficult, if not impossible, given that background sound levels in Vermont are often at or well above the limit of 35 dB(A).

While the proposed method of operations testing is particularly challenging at the low decibel levels being discussed, we agree with Mr. Ashtiani that it would be very challenging to determine compliance using any method at such a low limit, if any wind projects were in fact built under such a standard. To be clear, we continue to support the proposed compliance testing procedure. With a decibel limit this low, however, the standard would be inherently dysfunctional.

Conclusion

Based on the available wind resource and existing siting constraints, there is significant risk of a functional ban on wind at any level below 42 dB(A), given this standard's particularly conservative modeling parameters. As we have stated, there is no public health evidence to support the necessity of a sound limit lower than 45 dB(A). In addition, given all of the available evidence, there is no legal basis under either Act 250 and the Quechee Test or Common Law that would support an annoyance based standard below 45 dB(A).

Thank you for the opportunity to participate in this rulemaking proceeding and your thoughtful consideration of our comments.

[1] *See* Vt. Pub. Interest Research Grp., VPIRG Reply Comments on Implementing a Rule Regarding Sound from Wind Generation Projects 7-8 (Nov. 16, 2016).